

Electronics and Components



WORKSHOP EQUIPMENT

MAGNETI MARELLI

SMART – Technical Features



SMART – Basic Composition



- Tester SMART
- Cable for EOBD diagnostic connector (SAE J1962 - truck).
- Cigar light power cable.
- R/W SD Card for Update sw from PC.
- Cd-Rom with software for PC
- User manual for installation and first diagnosis.
- USB Cable for PC Connection
- ABS Siutcase.



LOGIC – Technical Features



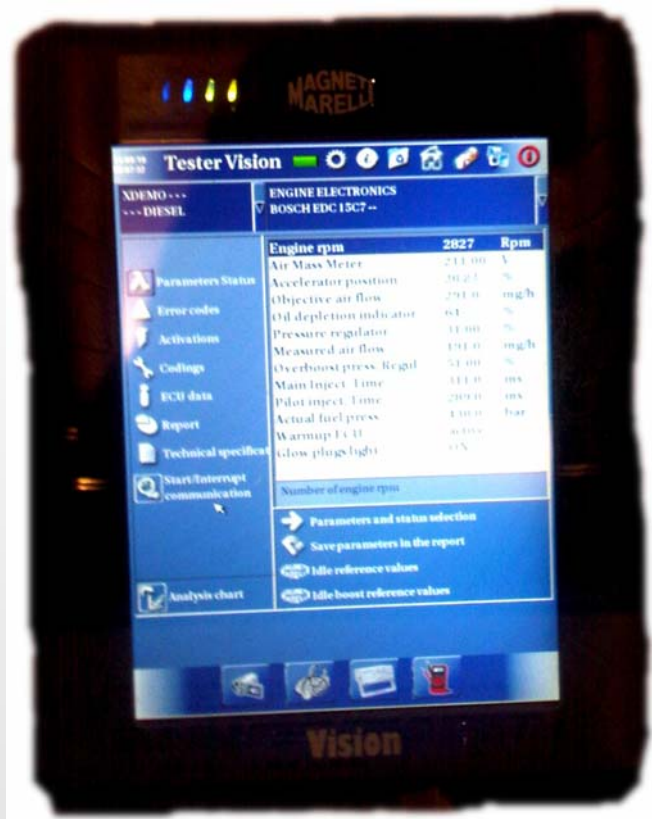
Fujitsu MB96F543 Altera EPM7128SQ - Ram 128 kB



Fully Electronic Multiplexer

External power Supply

Vision – **NOWOŚĆ 2011**



- SOFTWARE CAR,TRUCK BIKE
- YEARLY SUBSCRIPTION INCLUDED
- TOUCHSCREEN
- 4 CHANNELS OSCILLOSCOPE INCLUDED
- BOROSCOPE (OPTION)
- GAS ANALYZER LPG (OPCJA)
- SERVICE MANUALS MM

LOGIC – Software Interface



LOGIC – Technical Features



Real time Board: Fujitsu MB96F543 with microprocessor Altera EPM77128SQ.

RAM 128KB. Operative system: real time.

Communication Protocol: ISO9141, ISO14230, J1850PWM, J1850VPW, ISO15765, RS485, ISO15765, CAN C, J2411

Multiplexer: Fully electronic 13 x 2 channel

Battery: Lithium with recharge from EOBD Connector or external Supply

Memory card: 1GB

Power Supply: 8 ÷ 36 V

Connexion:

- Connector HD26 for ECU
- Connettor 3pin for external supply
- 1 USB master
- 1 USB slave
- 1 Seriale gateway

Bluetooth: First Class inside (till 100m)

LOGIC – Basic Composition



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INTEGRATES OK ENTIRE FUNCTIONS TRADITIONAL DIAGNOSIS WITH

SPECIFIC LICENSES FOR USE :

- CAR**

- TRUCK**

- BIKE**

URZĄDZENIA DIAGNOSTYCZNE



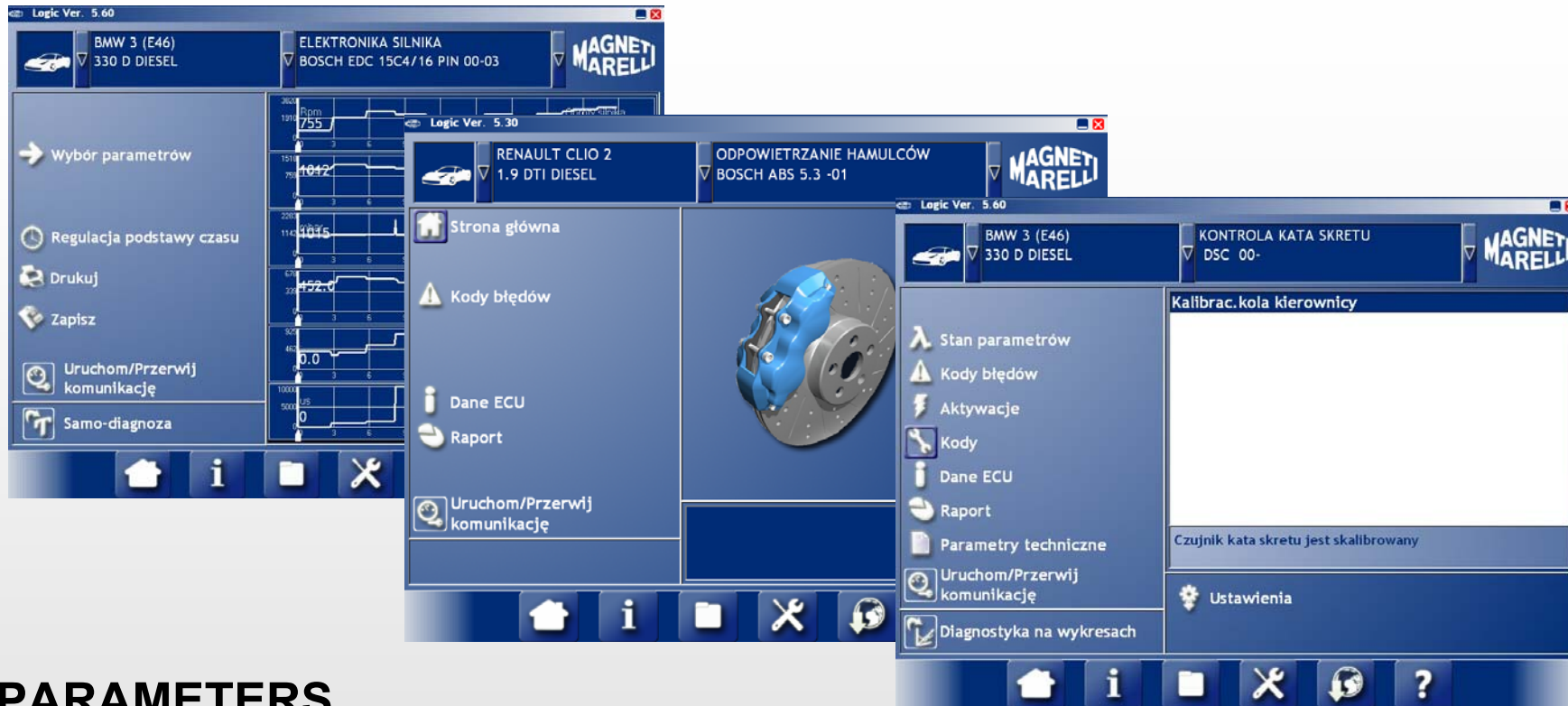
SPECIAL MENU+NORMAL DIAGNOSIS



- JÁRMŰ RENDSZEREK DIAGNOSZTIKA
- ☒ DTC HIBÁK KERESÉSE
- ☒ SZERVIZ BLANKETTA/KARBANTARTÁS
 - SZERVIZ BLANKETTA ELFOGADÁSA
 - SZERVÍZBLANKETTA ÁTADÁSA
 - SZERVIZ NULLÁZÁS
- ☒ GUMIABRONCSOK/BEÁLLÍTÁSOK//ESP
- ☒ RENDKÍVÜLI KARBANTARTÁS
- ☒ LÉGZSÁKKAL KAPCSOLATOS MUNKÁK

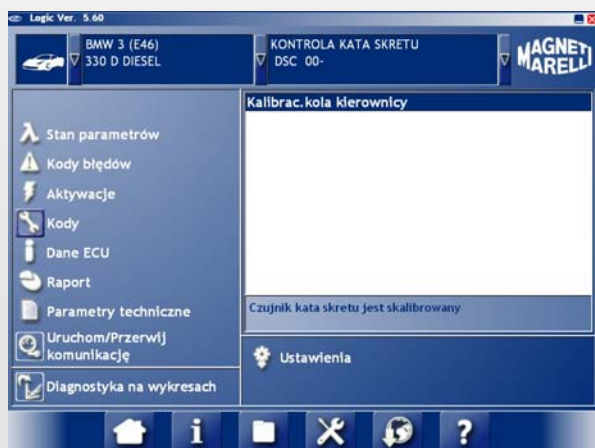
- ☒ GUMIABRONCSOK/BEÁLLÍTÁSOK//ESP
- ☒ RENDKÍVÜLI KARBANTARTÁS
 - A/C ÚJRAINDÍTÁSA
 - MOTORELLENŐRZÉS
- ☒ LÉGZSÁKKAL KAPCSOLATOS MUNKÁK
 - LÉGZSÁK INFÓ
 - LÉGZSÁK ÚJRAINDÍTÁSA
 - KÓDKERESÉS KÓDOLÁSSAL
 - LÉGZSÁG BEÁLLÍTÁSOK ÉS KÓDOLÁS
 - LÉGZSÁK ELLENŐRZÉS
- ☒ Komponensek működtetése

WIDE DIAGNOSTIC ABILITIES



- PARAMETERS
- ERRORS
- CALIBRATIONS AND ACTIVATIONS
- TECHNICAL NOTES


WIDE ABILITIES OF CALIBRATIONS



- SERVICE RESET (LONGLIFE)
- BRAKE BLEEDING
- ENGINE ECU RESET
- SIDE ACCELERATION SENSORS INITIALIZATION
- SUN SENSOR INITIALIZATION (BMW)
- BATTERY INITIALIZATION (BMW)
- STEERING ANGLE SENSOR RESET
- KEY CODIFYING
- TPMS SENSOR CALIBRATION
- INJECTOR CODIFICATION
- OIL QUALITY SET UP
- AIRBAG CODIFYING
- XENON LIGHTS CALIBRATION
- DASHBOARD LANGUAGE CHANGE
- DPF REGENERATION
- DPF PRESSURE SENSOR RESET
- AND MANY MORE.....


MANUAL PROCEDURES AND TECHNICAL INFORMATION

Logic Ver. 5.60



ALFA ROMEO 156
1.8 TS 16V BENZYNA

SYNCHRONIZACJA ZDALNEGO STER.
MANUAL PROCED.



SYNCHRONIZACJA ZDALNEGO STER. -

Dostępne funkcje:

[1\) Kodowanie pilotów](#)

uwaga:

Jeżeli bateria pilota znajdującego się w stacyjce Alfa Romeo 156 zostanie zmieniona, pilot oraz odbiornik mogą przestać być zsynchronizowane. Aby un-
poniższej procedury.

Kodowanie pilotów

Czynności do wykonania:

- Odłączyć baterię pilota.
- Całkowicie rozładować wewnętrzny kondensator pilota poprzez naciśnięcie jakiegokolwiek przycisku, przez co najmniej 10 sekund.
- Ponownie podłączyć baterię.
- Sprawdzić, czy pilot działa normalnie.

uwaga:

Ponowne programowanie pilota za pomocą „zamykania drzwi” nie rozwiąże problemu lub, co bardziej prawdopodobne, może doprowadzić do wyprowa-

ELEKTRONIKA SILNIKA

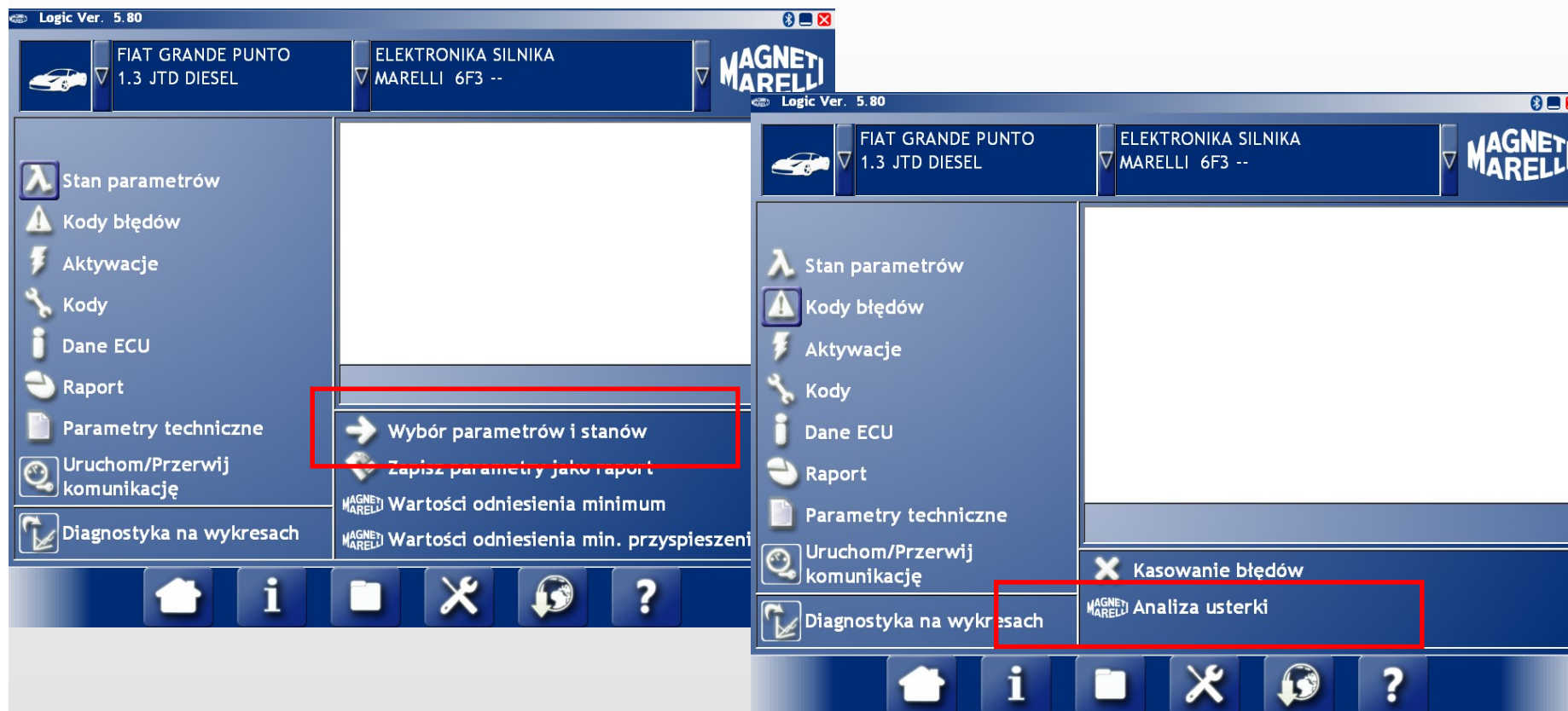
ZMIERZONE PARAMETRY

Liczba 'wymian oleju'	Wskazuje liczbę przeprowadzonych procedur 'wymiany oleju' (.)
Wskaźnik wyczerp. oleju	Wskaźnik wyczerpania oleju (%))
od ost. wymiany oleju	Wskazanie licznika przebiegu całkowitego od ostatniej wymiany oleju (km)
Przeb. do nast. 'wym. oleju'	Przebieg pozost. do przebycia przed następną 'wymianą oleju' (km)
Obrotv silnika	Liczba obrotów wału korbowego w

LOGIC AND SMART



EXAMPLE PARAMETERS AND ERRORS ANALYZE FOR MAGNETI MARELLI PARAMETERS





MAGNETI MARELLI

**TESTER
UNIWERSALNY
+
TESTER
POJAZDÓW
AZJATYCKICH**

JUŻ OD 10.000 PLN

1. Magneti Marelli Logic + Asian Connect = 10.000 PLN
2. Magneti Marelli Logic + Asian Gold = 12.200 PLN
3. Magneti Marelli Smart + Asian Connect = 12.300 PLN
4. Magneti Marelli Smart + Asian Gold = 14.300 PLN

**UŁOŻ WŁASNĄ OFERTĘ MAGNETI MARELLI
w zestawie taniej!**

PROMOCJA!!!!

- **2 DIAGNOSTIC TOOLS
WITH DIFFRENT
CONFIGURATION**
- **YEARLY SUBSCRIPTION
INCLUDED IN THE PRICE**
- **ASIAN CABLES SUITCASE
INCLUDED**

FULL CAR



FULL CAR

CODE 007935800100

DIAGNOSTICABLE SYSTEMS

ABS/Traction Control/ESP
Airbag
Parking Aid
Anti-lift system
Radio
Service Reset
Body Computer
Central locking
Air Conditioner
Immobilizer Card Coding
Key Coding
Remote Control Coding

Comfort/anti-lift
Passenger van control
Level adjustment
Seat/mirror adjustment
On-board instruments
Roof control unit
Diesel/fuel additive control
Steering angle control
Setting/suspension control
Light control
Door control
Seat control
Traction control
Dashboard/Immobilizer

Tyre control diagnosis
4-wheel drive electronics
Gearbox Electronics
Front control electronics
Rear control electronics
Clutch electronics
Gear change lever electronics
CAN network
Battery recharging
TPMS
Engine electronics
Diesel pump electronics
Steering wheel electronics
Suspension electronics

Transmission electronics
Parking brake
Immobilizer
Right light adjustment
Left light adjustment
Emergency call module
Navigator
Pre-injection pump
Instrument Panel
Light beam width adjustment
Distance adjustment
Power Steering/Electric steering
Sound system
Rear Spoiler

DIAGNOSTICABLE BRANDS

ALFA
ALFA ROMEO
ASTON MARTIN
AUDI
AUTOBIANCHI
BENTLEY

BMW
CADILLAC
CHEVROLET
CHRYSLER
CITROEN
DACIA
DAEWOO
DAIHATSU
DAIMLER

DODGE
FERRARI
FIAT
FORD
GM
HONDA
HUMMER
HYUNDAI
INNOCENTI

IVECO
JAGUAR
JEEP
KIA
LADA
LAMBORGHINI
LANCIA
LAND ROVER
LEXUS

LOTUS
MASERATI
MAYBACH
MAZDA
MERCEDES
MG
MINI
MITSUBISHI
NISSAN

PAGANI
PEUGEOT
PORSCHE
RENAULT
ROLLS-ROYCE
ROVER
SAAB
SEAT
SMART

SSANGYONG
SUBARU
SUZUKI
TATA
TOYOTA
UAZ
VOLVO
VW

FULL TRUCK



FULL TRUCK

CODE 007935800130

DIAGNOSTICABLE SYSTEMS

AES
Airbag
Central Anti Theft system
Body Computer
Climate control system
Key Coding
Injector Coding
Pneumatic Hydraulic Control
Cylinder Compression

AdBlue Control Management
Door Control
Ebs
Gearbox Electronics
Engine Electronics
Suspension Electronics
Immobilizer Expansion Module
Front Light Module
Rear Light Module
Modular Panel
Top control panel
Motor Vehicle Adjustment

Retarder
Heater
Compressed Air Backup
Service Reset
Front Axle Service Reset
Rear Axle Service Reset
Gearbox Service Service
Compt. Air Dishumid. Service Reset
Air Filter Service Reset
1st Front Axle Brake Service Reset
1st Rear Axle Brake Service Reset
2st Front Axle Brake Service Reset

2st Rear Axle Brake Service Reset
General Service Reset
Coolant Service Reset
Engine Service Reset
Periodic Service Reset
Retarder Service Reset
Distributor Service Reset
Power Steering/Electric steering
Tachograph
TPMS

DIAGNOSTICABLE BRANDS-TRUCK

ASTRA
BOWA BUS
DAF
DE SIMON
IRIS BUS
IVECO
IVECO BUS

MAN
MAN BUS
MERCED ES-BENZ
PETERBILT
RENAULT
SCANIA
SCANIA BUS
VOLVO
VOLVO-BUS

DIAGNOSTICABLE BRANDS-TRAILER

ACERBI
ADAMOLI
ADIGE
ANTEO
CARDI
CARLUX
CARMOSINO

GGFC
CHIAVETTA
CTB
DOLL
D-TEC
FELDBINDER
FGM CAR
GOLDHOFER
GONTRAILER
SSBOHRER
KOGEL

KRONE
LECINENA
MEILLERHOPFER
MENCI
MERKER
MICHELETTO
MIELE
MINERVA
MONTENEGRO
MULTITRAILER
NARDI

O.M.E.P.S.
OMAR
OMPS MACOLA
PAGANINI
PANNISAR
PAVELLI
ROLFO
SHMITZ
SHARWZ
SHARWZMULLER
TABARINI

TABARINI
TALSON
TEKSYSTEM
TECHOKAR
TIRSAN
TRAILOR
VIBERTI
ZORZI

FULL BIKE

FULL BIKE

CODE 007935800140

DIAGNOSTICABLE SYSTEMS

Engine Electronics
Immobilizer
Service Reset
Traction Control
Belt Service
TPMS
TPS Reset
Robotized Gear box
Onboard Instruments
ABS

DIAGNOSTICABLE BRANDS

APRILIA
BENELLI
BIMOTA

BMW
CAGIVA
DUCATI
GASGAS
GILERA
GUZZI

HD
HONDA
KAWASAKI
KVN
LAVERDA
MALAGUTI

MONDIAL
MORINI
MV
PEUGEOT
PIAGGIO
SHERCO

SUZUKI
TRIUMPH
VOOAN
YAMAHA

URZĄDZENIA DIAGNOSTYCZNE



SUITCASES + SINGLE WIRES



ASIA---EUROPE---BIKE---TRUCK---TRAILERS

LOGIC & SMART: Suitcase Cable



Suitcase cables diagnosis Europe

Content:

CABLE FORD >=1995 E604
CABLE VAG >=1995 E605
CABLE OPEL >=1995 E610
CABLE RENAULT >=95 E612
CABLE PSA 2 VIE E620
CABLE PSA 30 VIE E642
CABLE BMW E643A
CABLE MERCEDES E648
CABLE SPRINTER E650
CABLE IVECO DAILY E651
CABLE ALIM. BATTERIA
CABLE FIAT S607

Suitcase cables diagnosis Truck

Content:

CABLE RENAULT AUTO/CAMION E612A
CABLE MERCEDES SPRINTER E650A
CABLE IVECO DAILY E651A
CABLE SCANIA/DAF E670
CABLE VOLVO E671
CABLE ASTRA/IVECO E673
CABLE MAN 37 VIE E674
CABLE MAN 12 VIE E678
CABLE ALIM. BATTERY + FUSE
CABLE FIAT/IVECO TRUCK 2 S607A
EXTENSION CABLE DIAGNOSIS 3m

Suitcase cables diagnosis Asia

Content:

CABLE DAEWOO E649
CABLE SSANGYONG (SPRINTER)E650
CABLE HYUNDAI-MITSUBISHI E652
CABLE NISSAN 14 PIN E653
CABLE KIA 20 PIN E655
CABLE MAZDA ROUND 17 PIN E656
CABLE TOYOTA RECT.17 PIN E658
CABLE HONDA 5+3 PIN E659
CABLE SUZUKI 6+4 PIN E661
CABLE SUBARU 9 PIN E663
CABLE ADATT. SUZUKY 4 PIN E664
CABLE ALIM. BATTERY + FUSE

Suitcase cables diagnosis Trailer

Content:

CABLE AMERICAN TRUCK 3 E668
CABLE WABCO-KNORR E672
CABLE TRAILERS E679
CABLE HALDEX E681
CABLE HALDEX EB+ E684

Suitcase cables diagnosis Motorbike

Content:

UNIVERSAL CABLE E600
PFM001 - CABLE ADAPTER BENELLI
PFM002 - CABLE ADAPTER APRILIA
PFM003 - CABLE ADAPTER KAWASAKI 06
PFM004 - CABLE ADAPTER PEUGEOT
PFM005 - CABLE ADAPTER HARLEY DAVID.
PFM006 - CABLE ADAPTER BMW<=2004
PFM007 - CABLE ADAPTER HONDA DITEC
PFM008 - CABLE ADAPTER HONDA
PFM009 - CABLE ADAPTER BMW >2005
PFM010 - CABLE DIAGNOSIS HONDA PGM-FI 06
PFM011 - CABLE DIAGNOSIS SUZUKI
PFM012 - CABLE DIAGNOSIS KAWASAKI 07
CABLE ALIM. BATTERY
S607 - CABLE ADAPTER DUCATI S607

What?...Why?

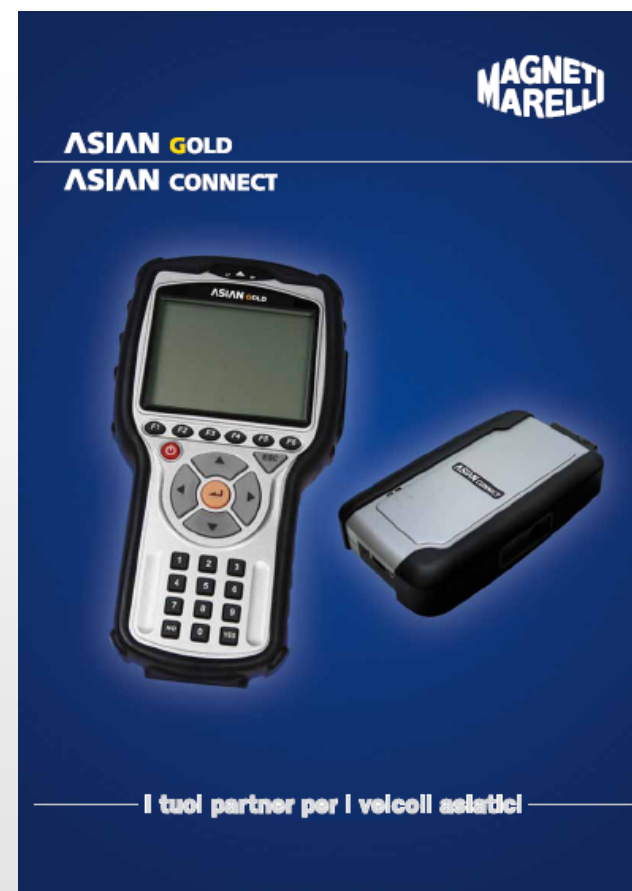


Asian Connect is a compact, easy to use product with a user interface that runs on the PC, and with USB or WiFi connectivity to ensure fast, extremely stable communication throughout all diagnostics procedures.

Asian Gold is a standalone product developed specifically for use in the workshop, with a protective shell and its own backlit LCD screen. The dedicated software allows the user to record diagnostics data and visualise it graphically.

These are ideal partners for the auto repair professional demanding class beating diagnostics capability for Asian and American automobiles.

This is a particularly significant accord, as the ever increasing numbers of Asian cars in Europe makes the use of OE based products indispensable for multi-brand service operators.



ASIAN GOLD – Technical Features

**ASIAN GOLD**

1 Communication protocols :

- OBD- II (ISO 9141-5, SAE-J1850), KWP-2000, CAN BUS, SAE-J1587

2 LCD

- LED Backlit 320 x 240
- 40 Columns x 12 lines

3 Keypad

- Soft-touch keypad
- 25 keys

4 Energy

- 3.6 Watts

6 Supply voltage

- 7-36V DC INPUT

3 Memory

- 256MB Built-in memory

4 Advanced Features :

- Information systems

Internal Battery

**ASIAN CONNECT**

ASIAN GOLD – Trademarks and cover basic composition



KIT BASIS:

ASIAN GOLD
SUITCASE
USER GUIDE
MAIN CABLE (16PIN)
CIGAR LIGHT POWER
POWER ADAPTER
POWER BATTERY
S/W DOWNLOAD CD
USB CABLE

KIT ASIAN (STANDARD)

CABLE HYUNDAI, MITSUBISHI (12PIN)
ADAPTER KIA, MAZDA (6+1PIN)
ADAPTER KIA 20PIN (BLUE)
ADAPTER DAEWOO, GM (12PIN)
ADAPTER SSANGYONG (14PIN)
ADAPTER SSANGYONG (20PIN)
ADAPTER TOYOTA, LEXUS (17PIN"R")
ADAPTER TOYOTA, LEXUS (17PIN"C")
ADAPTER SAMSUNG / NISSAN (14PIN)
CABLE MITSUBISHI (12PIN+16PIN)
ADAPTER HONDA (3PIN)
ADAPTER HONDA (5PIN)
ADAPTER MAZDA "C" (17PIN)
ADAPTER SUBARU (9PIN)
ADAPTER CAN "LOW SPEED"

KIT EUROPEAN (OPTIONAL)

CABLE AUDI / VW (2+2PIN)
ADAPTER BMW (20P)
BLACK BOX BENZ 38PIN
CABLE BENZ (3LINER)
ADAPTER OPEL (10PIN)
CABLE PSA (2PIN)
CABLE PSA (30PIN)
CABLE RENAULT (12PIN)
CABLE FIAT (3PIN)

KIT AMERICA/AUSTRALIA (OPTIONAL)

FORD CABLE (20P)
HOLDEN ADAPTOR (6P)

TPMS Connect – Technical Features

Display LCD Backlit 4x16 characters (white/blu).

Jack for power connection

USB port

Litium battery



TPMS Connect – Features and Functionality

Features:

Enabling the submission of the valves (depending on model):

CW 125KHz

Modulation OOK a 125kHz

Receiving data from valves (pressure, identifier) on Radio Frequency carrier (ASK,FSK) da 315MHz a 980MHz can then cover 433MHz e 868MHz (Europa)

429MHz (Japan)

315MHz (USA)

Keyboard 5 keys (SU, GIU, ENTER, ESC) + ON/OFF

Functions:

Allowed to send data from tire pressure sensors

Display data sent from the pressure sensors: ID, pressure, temperature (if available), battery status, state valve (if available).

Test all vehicle sensors

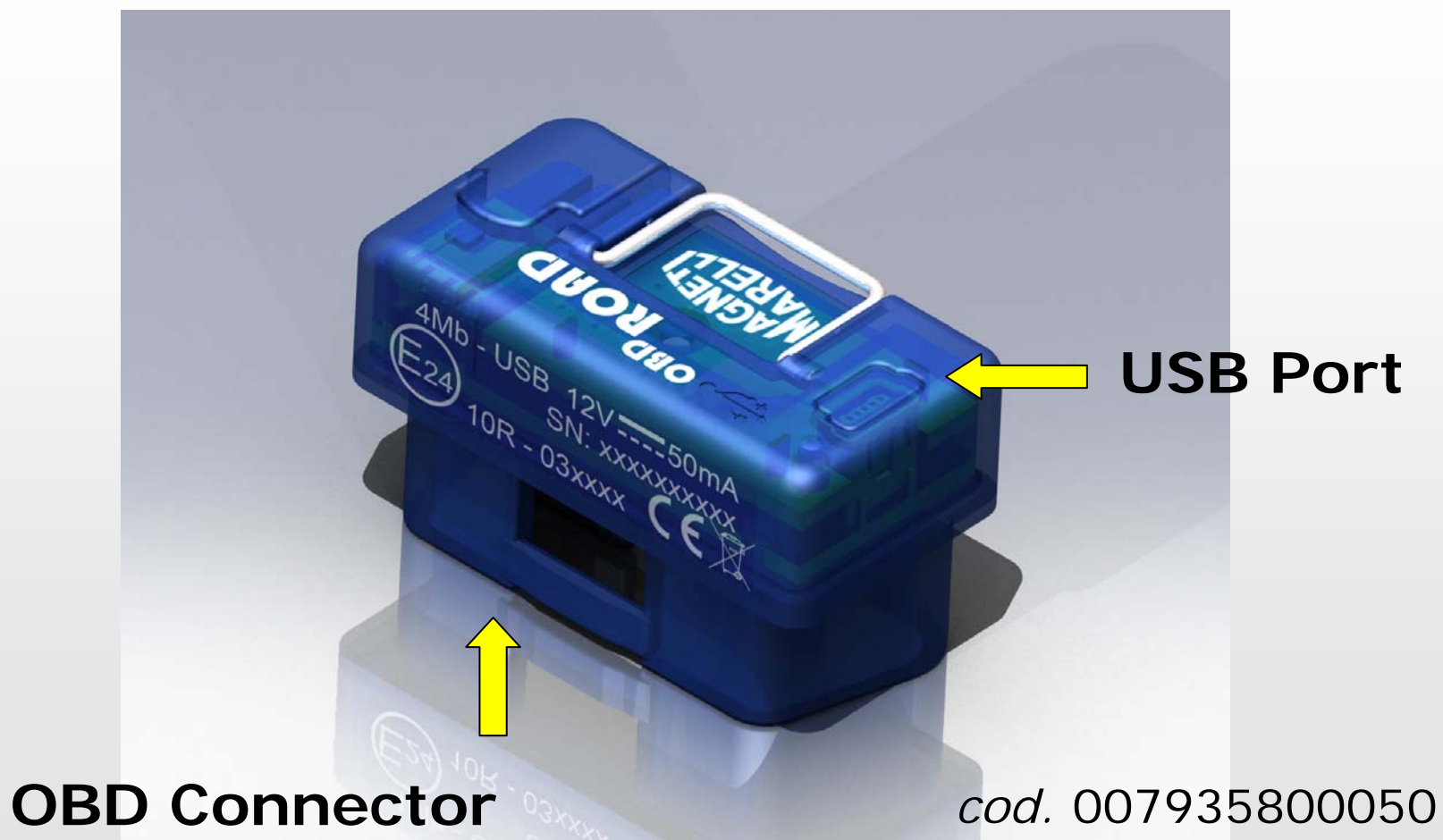
Displaying technical data and unique parts OEM

Manual steps to reset electronic vehicle (on CD ROM).

Remote Test / break Vehicles.



- NEW OPPORTUNITIES OF DIAGNOSTICS



- POSSIBLE FUNCTIONS:
 - RECORDING AND ANALYZING OBD PARAMETERS
 - LPG FUNCTION
 - ECO-DRIVE FUNCTION
 - ERASING ERRORS
 - INTERPRETATING SPECIFIC EOBD ERRORS (P1XXX)

TPMS Connect – Sw PC & Standard equipment



Standard equipment :

- Universal power supply for recharging battery
- Cd-Rom with software to install on PC upgrades and management test report
- Manual to use as a quick installation guide and the first diagnosis
- Cable USB connection to PC
- Suitcase carry instruments ABS



2. Tipo di sensori

E' possibile classificare i sensori in due grandi categorie a seconda che siano scomposti o integrati con il corpo valvola, come descritto nella seguente tabella.

	Modello 1 La valvola rappresentata in figura è composta da due elementi: <ul style="list-style-type: none">- il sensore di pressione- il corpo valvola Quest'ultimo è composto da quattro elementi: vite di fissaggio, valvola, dado per serraggio e cappuccio della valvola.
	Modello 2 La valvola rappresentata in figura è composta da un unico elemento che raggruppa sia il sensore di pressione che la valvola stessa. Per questo modello di valvola si ha, inoltre, un anello di tenuta / guarnizione (serve per evitare che fuoriesca l'aria dal foro del cerchio), un dado di serraggio ed il cappuccio della valvola.



Nel caso risulti necessario cambiare la valvola per il modello 1 non è necessario cambiare il sensore; viceversa per il modello 2 cambiando il corpo valvola cambia anche il sensore.

A/C machine



The new Climatization offer recharge and diagnosis of automotive A/C systems:

- Clima Tech PLUS Evolution
- Clima Tech HD Evolution
- Clima Tech TOP



Why ClimaTech TOP



- **ClimaTech TOP** fully automatic.
- **ClimaTech TOP** the higher technology level on the market
- **ClimaTech TOP** only automatic valve
- **ClimaTech TOP** integrated data bank for brand, model, version...
- **ClimaTech TOP** printer included
- **ClimaTech TOP** second generation hardware
- **ClimaTech TOP** 3 specific electronic balance for oil and UV
- **ClimaTech TOP** new chassis

TECHNICAL FEATURES

Refrigerant	R134a.
Recovery Speed	Compressor 14 cc: 500 g/min in liquid.
Balance	Electronic: precision +/- 10 gr. Max. Capacity 60 Kg. Protection from mechanical stress (SDS).
Cylinder Capacity	Container 13 Kg di R134a.
Filter	Combined filter with molecular sieve. Mechanical filter.
Vacuum Pump	Oil movement, 6 m3/h.
Condenser ventilated	
Printer	Graphic, serial, with customization data workshop



Why ClimaTech Plus/HD Evolution?



ClimaTech PLUS Evolution and **ClimaTech HD Evolution** have been upgraded for graphic layout, now the same for all Clima-Tech offer.

Comparating technical characteristics of previous **ClimaTech PLUS** e **HD**: new logic multi-language with alphanumeric display; 3th case to inject UV individually; 3th manometer to control internal pressure tank; optional database (with memory card) in order to charge A/C circuit with a directly selection of the car; with an optional printer you can print a report of all the operation with workshop's name;

ClimaTech PLUS Evolution e **ClimaTech HD Evolution** are different only for:

ClimaTech PLUS Evolution semi-automatic, studied to work on automotive vehicles.

ClimaTech HD Evolution, can also work, other than automotive, on truck vehicles, busses and van thanks to the big internal tank (21 Kg), plus vacuum pump (14,3m³/h) and longer pipes (4 m)

CLIMA TECH TOP

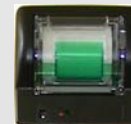


Clima Tech TOP is a full optional A/C machine, so don't need any accessories

CLIMA TECH PLUS/HD EVOLUTION



If you want to customize your Clima Tech Plus/HD Evolution you can add to it:



Printer



SD Database

A/C machines for FGA



Climatization line – Accessories range



Leak detector kit



Thermal band for inner cylinder



Kit O-ring FGA

Kit O-ring multibrand



**Disposable washing
A/C circuit**

Climatization line – Accessories range



Thermometer infrared/stick



Hydraulic press fo pipes

Flushing machine



Oils and fluids



**Eliminates odors and totally disinfect
any cockpit**

Ozone Maker



Ozone Maker need only power supply to work, because air is sucked by environment.

Aria in

O₃ out



Power Supply

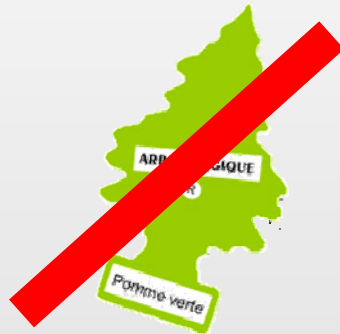
Why use Ozone? It's a disinfectant!



Ozone was officially recognized by Ministry of Health as garrison medical disinfectant.

The universities of Udine, Parma and Napoli have done clinical test in order to demonstrate the disinfectant power of this gas.

Perfume and deodorants can't completely clean the environment; only ozone can delete all the pollutants.



NO



YES

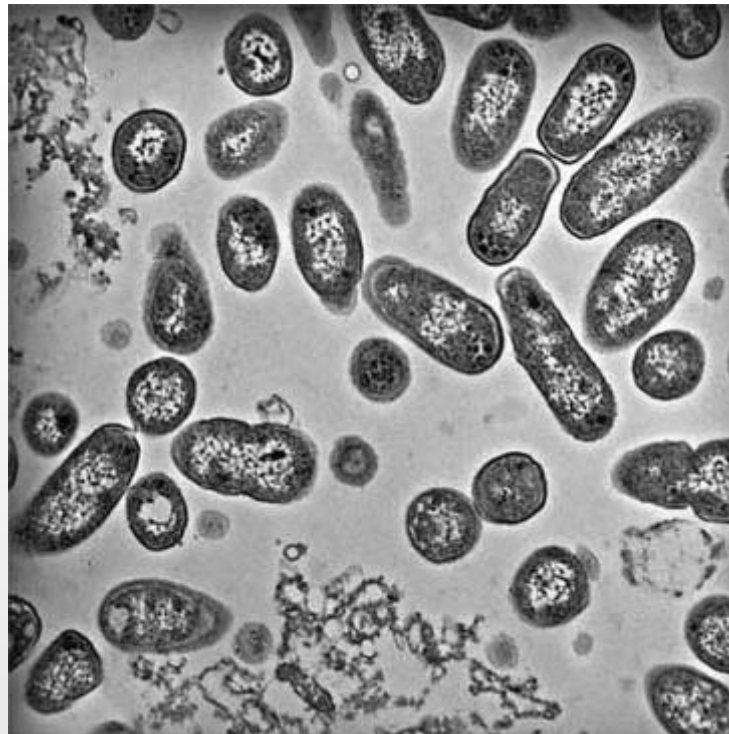
Benefits of treatments



The use of Ozone Maker in car, isn't only to eliminate odors, but also to safeguard your health.



That's because a cockpit full of smog, bacteria and viruses, increases the risk of pulmonary and respiratory diseases.



The figure shows highly magnified, your dashboard, after being cleaned with a special detergent.

As you notice, the cockpit is only seemingly clean.

Only a reactive gas like Ozone can really guarantee the total disinfection not only from dirt but from all the "guests" living in your car

After having tried, the difference will be obvious!

BATTERY TESTER



Measure Line – Battery Tester



Battery Tester is an exclusive tool of Magneti Marelli, developed to satisfy diagnosis and maintenance needs of starter batteries.

Particular attribute of Battery Tester are high performance and ease of use.



- Suitable to test batteries from 6 V to 12 V;
- Suitable to test recharge system from 12 V to 24 V;
- Protection against reverse polarity cable;
- Backlit display;
- Printing the battery's diagnosis;
- Test doesn't alter the state of battery charge (centesimal variation).
- 10 second of period test
- Minimally invasive (minima disturbance) in order to test any microinterruption intercella not demonstrated in passive measurement mode (for example, internal resistance measurement);
- Available in 11 languages: English, French, Spanish, German, Italian, Portuguese, Japanese, Chinese (T/S), Norwegian e Polish, Turkish;
- Repetition of the response (repeated tests on a single battery supply values almost superimposable);
- Discrimination between battery: “efficient”, “good, recharge”, “recharge and re-test”, “defective, replace”, “short-circuit in cell”.



SOFTWARE LINE



Technical electronic data base for multi-workshops based on a repertoire of technical data for cars in Europe.

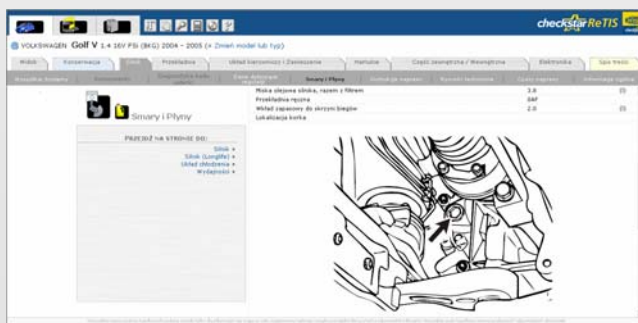
The application contains information on essential maintenance and repair, adjustment data, technical drawings, fuses and relays, diagnosis based on fault codes, data management engine, electrical ABS, Air Bag, Engine Management, comfort electronics, climate control. Data is based strictly on the original ones supplied by the original equipment manufacturer OEM.

The product is also available **Online** whose benefits are:

updates: is updated 4 times a year;

speed in asking databases online;

same interface user **Offline** version (DVD).



The contents of ReTIS

- **7.000** types of engine;
- **50.000** technical drawings;
- **6.000** engine management systems;
- **Thousands** of wiring diagrams;
- **Millions** of repair times.



NEW!!!!

2 VERSION

SMART(MOBILE VERSION)

LOGIC(FOR PC)

**MEETS THE
EUROPEAN OIML CI.0**

DIESEL TESTER



Since the introduction of common rail diesel injection systems there has been an increase in starting problems resulting in high repair costs due to long diagnosis

times and replacement of expensive components such as injectors and injector pumps. This issue has remained even after design improvements on common rail diesel vehicles. The Common Rail Tester has been developed to effectively diagnose the problems affecting these systems.



DIESEL TESTER



DIESEL TESTER



DIESEL TESTER PRO



NO.	Diagnostic Items
1	Low pressure pump
2	Fuel Filter & Fuel
3	High pressure Pump
4	Injector Back Leak
5	Rail Pressure Sensor
6	Pressure Regulator Valve
7	Cylinder Compression
8	Injection Quantity Variation

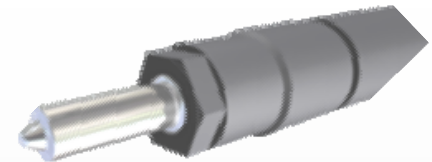
TEST BENCH –DS2



NOWOŚĆ!!!!

**COVERAGE OF INJECTORS:
Bosch, Delphi, Siemens, Denso**

- Test of leakage , spraying and discharge
- Database
- Cover electromagnetic and piezoelectric injectors.
- Able to program multiple injections (up to 3 injections)
- Program Automatic/Manual
- Different testing software
- Adapters and special optional sets
- Special safety function to avoid damage of injectors





Test Bench –CRU2

- measurement of the delay of the reaction of the needle (option)
- Codification of injectors Bosch/Delphi/Denso (update w 2010 roku)
- Inductivity measurement (option)
- Graphic analyse of the test
- Customers database
- touchscreen LCD
- Able to install special adapters for trucks and pump injectors
- Working pressure up to 2200 barów
- Multiple injections (up to 9)
- Fully automatic
- Injectors database
- 2 channels oscilloscope



COMPLETE SERVICE FOR GASOLINE INJECTORS:

- EFFICIENCY TEST**
- SPARYING TEST**
- ULTRASONIC CLEANING**
- IDLE SPEED ACTUATORS
CONTROL**

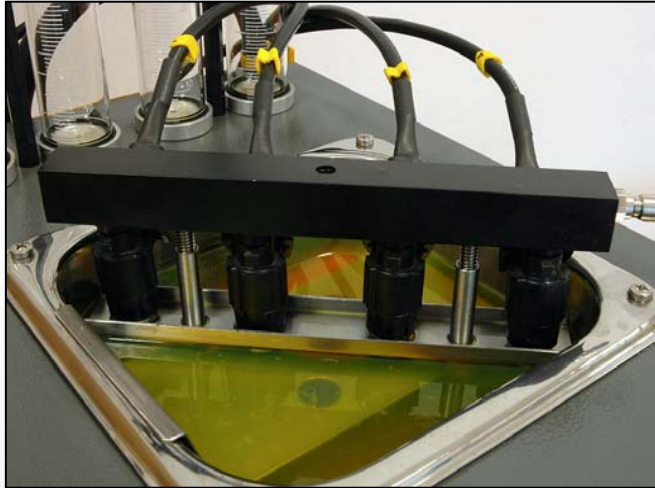


6 TESTING FUNCTIONS

LEAKAGE TEST

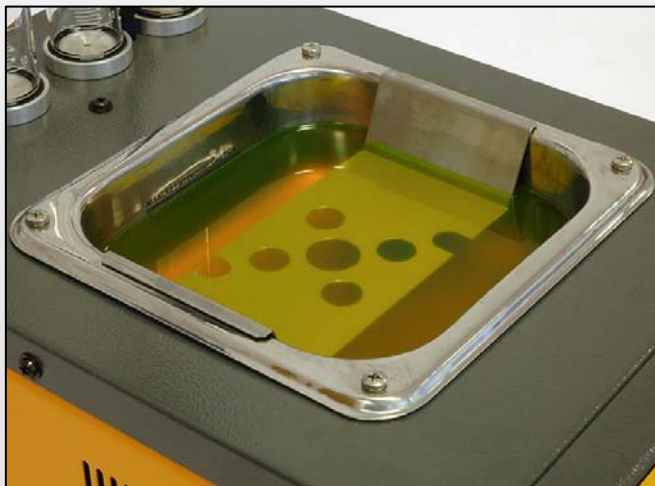
EFFIECIENCY TEST:

- SPARYING TEST FROM 1000 TO 7000 RPM
- SPARYING TEST FROM 1000 TO 15000 RPM(MOTORBIKES)
- SPARYING TEST FROM 1000 TO 7000 RPM(GAS INJECTORS)
- SPRAYING AND CLEANING TEST
- CONNECTED TEST



5 CLEANING FUNCTIONS

- 15 LIGHT CLEANING
- 30 LIGHT CLEANING
- 15 HARD CLEANING
- 30 HARD CLEANING
- 30 HARD CLEANING OF GDI INJECTORS



PNEUMATIC STRUT AND STRING STATION



► A L S - Auto Leveling System

The two auto leveling upper arms allow to work easily both on conical and misaligned springs.

► Cylinder: Stroke & Power

It is possible to use this auto leveling machine also in case of long shock absorbers as the ones installed on commercial vehicles, off roads and wagons, thanks to its 420 mm stroke.

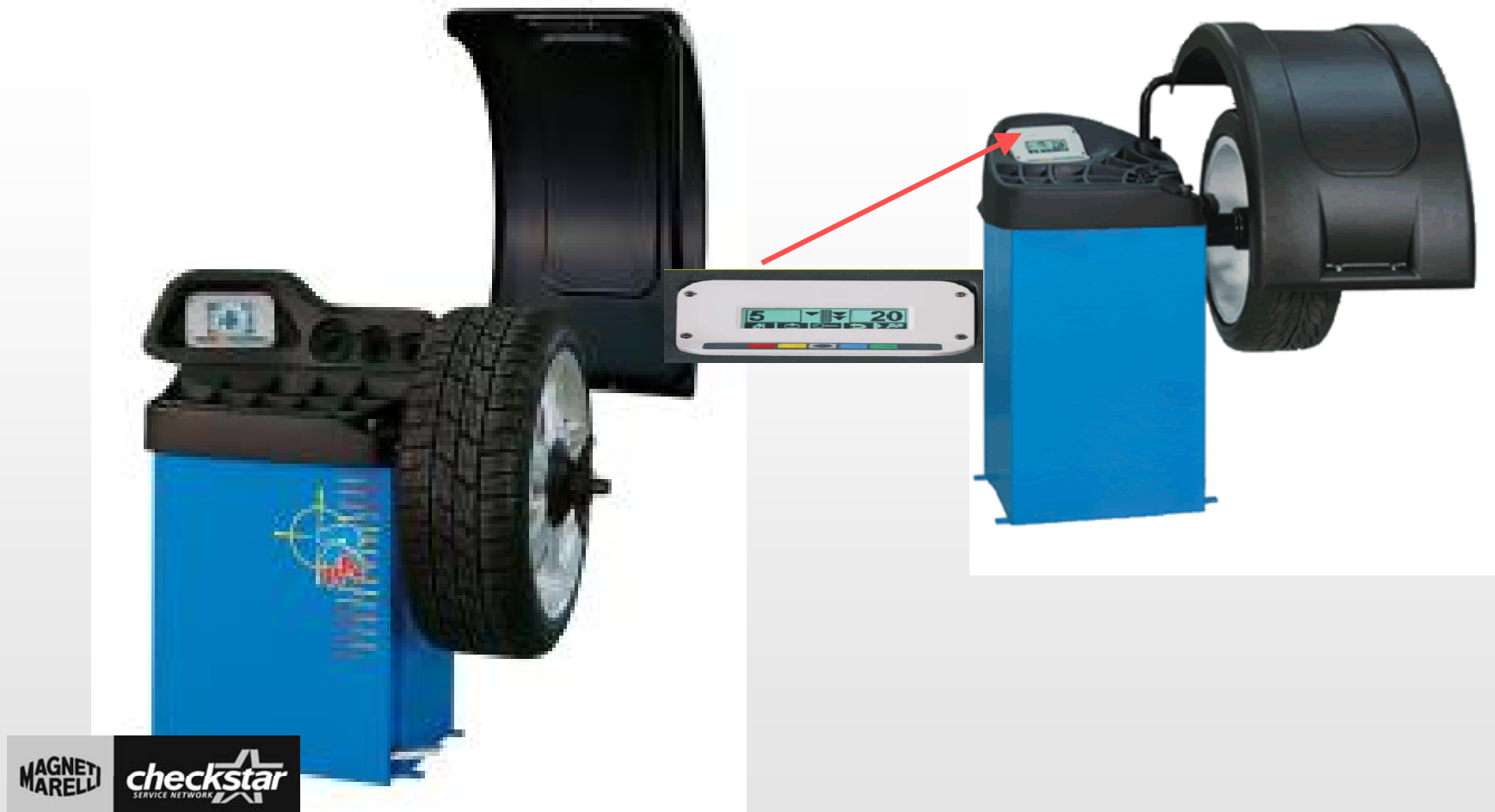
► Aluminium Technology

With a working pressure of 10 bar the machine exerts a compression force at 1226 kg without losing power.

► Brackets System

The cylinder is made in light alloy and nylon resin with fibreglass avoiding consequently the corrosion and the oxidation of the internal parts of the machine.

WHEEL BALANCERS



DISMOUNTING MACHINE

**MAGNETI
MARELLI**



BRAKE BLEEDER



Air-operated equipment suitable for brake and clutch-oil. The plate avoids the mixing of the air into the oil and no risk of emulsion can occur.



- 10 L. CAPACITY**
- EASY TO OPERATE**
- SMALL DIMENSIONS**
- STEEL INOX**

Timing tools



Fiat, Lancia, Alfa 1.4 – 3.0



VAG 1.9TDI AJM, 130 – 150 km



GM 1.0, 1.2: 12v, 16v, 2.0td 16v



Renault 1.9 DCI



Renault 2.2 dCi, 2.4 dCi



VAG 1.4 TDI, 1.2

SPECIAL TOOLS



**Renault 1.8 – 2.0 + blokada
rozrzędu 1.4 – 1.6**



**Fiat, Lancia, Alfa 1.9JTD–
2.4JTD, 140 – 175 km**



**Fiat, Lancia, Alfa 1.3
Multijet**



Fiat Ducato 2.3 JTD



Ford Zetec 1.4, 1.6, 1.8, 2.0



Fiat Stilo, Multipla 1.6 16v



**SPECIAL TOOL FOR
INJECTOR AND
PUMP INJECTOR**



**SPECIAL TOOL FOR
ALTERNATORS
BOSCH/MARELLI/DELPHI**



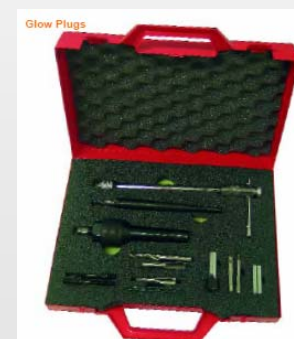
**SPECIAL TOOL FOR SAC
CLUTCHES**



**SPECIAL TOOL FOR
INJECTOR SEAT
RESURFACING**



**SPECIAL TOOL FOR
FIXING DAMAGED GLOW
PLUGS SEAT**



**SEPCIAL TOOL FOR
DISMOUNTING GLOW
PLUGS**

CHECKSTAR NETWORK IN POLAND

18 WORKSHOPS

10 CANDIDATES





FEATURES

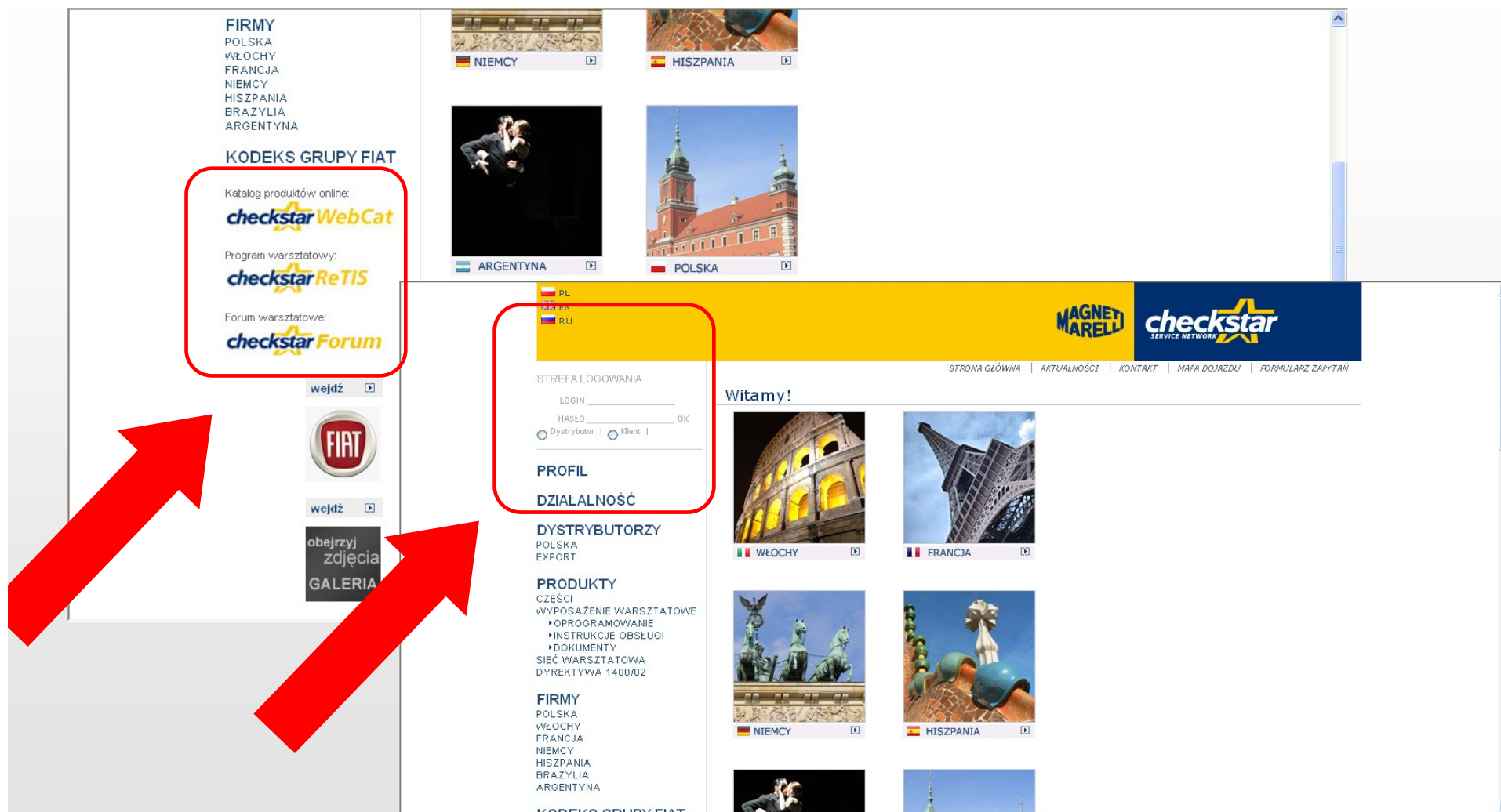
- **TECHNICAL TRAININGS**
- **ADVERTISEMENT ON MM WEBSITE**
- **PERMIT TO USE MM TRADEMARK**
- **VISUALIZATION**
- **STARTING PACK**
- **CALL CENTER AND TECHNICAL HELP**
- **DISCOUNT FOR THE WORKSHOP EQUIPMENT**
- **ACCESS TO THE PARTS CATALOGUES**



REQUESTMENTS

- **A/C STATION AND UPDATED DIAGNOSTIC TOOL**
- **2500 EURO YEARLY TURNOVER ON SPARE PARTS AND WORKSHOP EQUIPMENT**
- **INTERNET CONNECTION**
- **2 TECHNICIANS**
- **CUSTOMER CARE PLACE**
- **PARTICIPATION IN TRAININGS (YEARLY PACK)**
- **VISUALIZATION MM**
- **RETIS SOFTWARE**

SPECIAL ZONE ON THE WEBSITE



The screenshot shows the Checkstar website interface. Two red arrows point to specific areas:

- Left Arrow:** Points to the left sidebar menu, which includes:
 - FIRMY (Polska, Włochy, Francja, Niemcy, Hiszpania, Brazylia, Argentyna)
 - KODEKS GRUPY FIAT
 - Katalog produktów online: **checkstar WebCat**
 - Program warsztatowy: **checkstar ReTIS**
 - Forum warsztatowe: **checkstar Forum**
 - wejść (with Fiat logo)
 - wejść (with 'obejrzyj zdjęcia GALERIA' text)
- Right Arrow:** Points to the central login and navigation area, which includes:
 - Language selection: PL, EN, RU
 - STREFA LOGOWANIA (Login field, Hasło field, OK button, and buttons for Dystrybutor and Klient)
 - PROFIL
 - DZIAŁALNOŚĆ
 - DYSTRYBUTORZY (Polska, Export)
 - PRODUKTY (Części, Wyposażenie warsztatowe, Oprogramowanie, Instrukcje obsługi, Dokumenty, Sieć warsztatowa, Dyrektywa 1400/02)
 - FIRMY (Polska, Włochy, Francja, Niemcy, Hiszpania, Brazylia, Argentyna)
 - KODEKS GRUPY FIAT

The top right of the page features the MAGNETI MARELLI and checkstar SERVICE NETWORK logos, along with navigation links: STRONA GŁÓWNA, AKTUALNOŚCI, KONTAKT, MAPA DOJAZDU, and FORMULARZ ZAPYTAŃ. The main content area displays a 'Witamy!' message and a grid of images representing different countries: Włochy, Francja, Niemcy, and Hiszpania.



AUTO CENTRUM GOLEMO (EXAMPLE WORKSHOP)

TRAININGS

- AIR CONDITIONING
- COMMON RAIL - 1.3 MULTIJET (OCTOBER)
- BASIC DIAGNOSIS
- FIAT GRANDE PUNTO(NEXT YEAR)

